

Proposed Action: "Daylighting permanent wildlife openings"

Date of Proposal: April 26, 2007

Dear Ranger Sutton,

My comments on this issue represent my personal opinion and also the official position of South Carolina Native Plant Society as sanctioned by the Board of Directors of that organization. I am a member of SCNPS, active on the Issues Committee and former Issues Chair. I strongly disagree with the proposal for "daylighting" for quail habitat improvement. Negative effects of this method are well known and have led to widespread destruction of native longleaf pine groundcover throughout its range. These negative impacts can be summarized as follows:

(1) Disking disrupts surface soils to the detriment of native perennials, including "climax" type bunchgrasses and native perennial legumes preferred by quail (Abrahamson and Hartnett 1990, Glitzenstein et al. 1993). Reductions in these desirable species are accompanied by increases in undesirable weeds including dogfennels (*Eupatorium capillifolium*, *E. compositifolium*), *Heterotheca subaxillaris*, *Polypremum procumbens* etc. Some desirable (i.e. from the quail perspective at least) annual species, e.g. *Ambrosia spp.*, annual legumes, etc are increased, but the increase is temporary. Maintenance of the desired annuals is unsustainable from an ecological standpoint and repeated anthropogenic treatments, i.e. additional annual disking, is required to sustain this unnatural condition. If annual disking is not maintained the strips tend to be invaded by vegetative proliferation of shrubs, thereby reducing the habitat quality.

(2) Persistent soil disturbance associated with light disking provides enhanced opportunities for establishment of aggressive alien invaders including coffeeweed (*Senna obtusifolia*), careless weed (*Amaranthus palmeri*), and, most recently, cogongrass (*Imperata cylindrica*). I have seen cogongrass invading just such disturbed habitats on private quail lands in Mississippi, Florida and Georgia. Given the recent appearance of cogongrass in FMNF and the extreme threat to native ground cover posed by that fact, creating an enhanced opportunity for establishment of this dangerous plant cannot be justified.

(3) This project proposes to seed in "native" grasses and annual legumes including partridge pea for the benefit of quail. Several big seed companies are aggressively marketing so-called native grass mixes. As USFS is well aware, even when the species are local these mixes typically consist of alien genotypes from remote geographical locations outside of the longleaf pine region. Alien genotypes may pose as great a threat to native ecosystems as alien species (Gustafson 2005). Documented harms of alien genotypes include dilution of locally adapted native gene complexes and, in some instances, appearance of unusually aggressive "superplants" that competitively exclude native associates. There is no guarantee that the genes are even native to North America. I recently sent e-mails to several seed companies in an effort to determine the source of the seed in their "native grass mixes". Typically they will not reveal the sources. One company rep however described the source as "USA and several foreign countries".

FMNF is one of the last strongholds of intact native ecosystems including vast stands of locally adapted native grasses. This project proposes to disc up these native grasses and replace them with alien types from remote regions. The best that could be hoped for in the case of such ignorance is failure of the whole project. This would be a waste of taxpayer funds but would at least avoid an ecological disaster.

A final point is that federal agencies including USFWS, USFS Seed Laboratory, and at least some NRCS biologists are working hard to convince these same seed companies to produce and market local “ecovars”. My impression is that this was a goal as well of National Forests in SC including especially soil scientist Dennis Law, hydrologist Bill Hanson, botanist/ecologist Robin Mackie and others. SCNPS has enthusiastically cooperated in volunteer outings to further this worthwhile USFS effort. The current proposal appears to set aside all this hard work in favor of a misguided new direction.

(5) Quail managers, especially on CRP lands are now aggressively promoting this idea of light disking. The idea may have some benefit in old agricultural lands where the ground cover to be manipulated already consists largely of weedy ruderals. However, knowledgeable quail biologists do not advocate this technique in native pristine groundcover lacking a history of soil disturbance. The following quotation from Tall Timbers Research Station Red Hills Stewardship Guide (Masters et al. 2003) summarizes the best current information:

“An option to creating new fields on old field lands is to lightly disk patches under the timber canopy. If timber density is at recommended levels, disking will produce results similar to creating a new field. Tall Timbers research has found that these areas produce excellent brood habitat and stimulate growth of important winter food plants like mint blue curl and partridge pea. A word of caution relative to disking wiregrass is necessary. By and large these areas have never been plowed and therefore rarely have the appropriate seed bank to respond positively to disturbance. Brood growth and survival are lower on areas of native ground cover that has been repeatedly disturbed, as opposed to recently burned intact native ground cover.” (Red Hills Stewardship Guide page 45, final paragraph). Wiregrass is rare in central SC where the dominant grasses consist mainly of bluestem, indiagrass and dropseed species, and toothache grass in the wetter habitats. Nevertheless the caution against disturbing mature intact native ground cover applies equally in Francis Marion NF as in the remnant wiregrass savannas in the Tallahassee Red Hills area.

I have personally witnessed widespread destruction of native longleaf groundcover due to random disking on private quail lands. If this activity is allowed on National Forest land, even in strips adjacent to roads and existing food plots, I fear it will be a slippery slope towards even greater destruction. This is a dangerous and misguided proposal. I urge its rejection.

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Literature Cited

Abrahamson, W.G. and D.C. Hartnett. 1990. Pine flatwoods and dry prairies. Ch. 5 in *Ecosystems of Florida*, R.L. Myers and J.J. Ewel, editors, pp. 103-149 (see especially subsection on “human influences and alterations”, pp. 130-135). University of Central Florida Press, Orlando, FL, USA.

Glitzenstein, J.S., D. Hardin, D.B. Means, K.W. Outcalt, J. Walker and N. Wilkins. 1993. Silviculture effects on groundcover plant communities in longleaf pine forests. Proceedings 18th Tall Timbers Fire Ecology Conference 357-370.

Gustafson, D.J. 2005. Using local seeds in prairie restoration: data support the paradigm. *Native Plants Journal* 6(1): 25-28.

Masters, R.E., K. Robertson, B. Palmer, J. Cox, K. McGorty, L. Green and C. Ambrose. 2003. Red Hills Forest Stewardship Guide. Tall Timbers Inc. Tallahassee, FL, USA. (see especially chapter on Wildlife habitat management, pp. 41-56).